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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,723	07/25/2005	Pierre Sevigny	073986-00033 (F-PRCB-33)	5174

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EXAMINER	
KHARE, ATUL P	
ART UNIT	PAPER NUMBER
1791	
MAIL DATE	DELIVERY MODE
09/02/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,723	SEVIGNY ET AL.	
	Examiner	Art Unit	
	ATUL KHARE	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *1-11 and 23-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II, claims 12-22 in the reply filed on 26 June 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 1-11 and 23-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 26 June 2009.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 12-15, 18, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over ROY ET AL. (WO 01/16589) in view of WADE (US 3,703,255).

7. As to claims 12 and 14, ROY teaches a thermoformed electrophoresis cassette comprising thermoformed surfaces, a molded reservoir, and at least one aperture, including holes comprising reservoir entries as required by the claim (page 5). Additionally, the thermoformed electrophoresis cassette made by ROY is identical to that which is formed by applicant (see figure 1 of the prior art, for example). ROY does not appear to explicitly disclose the specifics of the thermoforming process used. However, WADE teaches in a process for thermoforming thermoplastic containers from sheet material the steps of positioning a sheet between mold members of a thermoformer, and compressing the sheet between the mold members, thereby stretching the sheet during the thermoforming operation (abstract, column 3 lines 1-20). The material used for the thermoplastic sheet includes polystyrene or polyethylene having good thermoforming characteristics (column 5 lines 29-37). Note: these

materials are also disclosed by applicant at [0053] as thermoforming materials suitable for the manufacture of an electrophoresis cassette. The sheet is heated prior to being applied to the mold to its forming or stretching temperature (column 6 lines 15-30). The sheet is cooled following the thermoforming operation (column 7 lines 32-40). At figures 2 and 3, the pressure being applied to the sheet closely maintains the material on the mold. The pressure applied to the sheet creates a hole to form a cup, for example. Also at figures 1 and 2, the stretching creates a uniformly distributed surface as required by the claims. Embodiments of the final product are depicted at figures 9-11 of the prior art. The cooling parameters of the cooling step are implicitly adapted to create these final products having a uniformly distributed surface as required by the claims.

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of ROY and WADE to arrive at the instant claims because of the need in the art to create an electrophoresis cassette using thermoforming methods.

8. As to claim 13, ROY does not appear to explicitly disclose the specifics of the thermoforming process used. However, WADE teaches a mold having an upper mold block which constitutes a frame as required by the claim (see item 12 of figure 2). The frame has a female mold section which constitutes a groove as required by the claim, forming cavity 28. The groove implicitly has a rear surface, which can be identified at vacuum lines 27 or manifold section 24. The groove as taught by modified ROY, described in the rejection of claim 12 above, implicitly is of dimensions sufficient to have at least one cassette mold provided therein. A space can be seen provided between the

groove and a male mold member at figures 4-7 that implicitly permits stretching of the sheet material, forming a final product having a uniform molded material surface (shown at figures 9-11).

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of ROY and WADE to arrive at the instant claims because of the need in the art to create an electrophoresis cassette using thermoforming methods.

9. As to claim 15, ROY does not appear to explicitly disclose the specifics of the thermoforming process used. However, WADE teaches the mold comprising a vacuum port (item 26) in the frame, along with a number of vacuum passages (item 27) in the frame to apply pressure to the sheet using a vacuum pump, creating a negative pressure between the mold and sheet (see abstract and column 4 lines 44-53).

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of ROY and WADE to arrive at the instant claims because of the need in the art to create an electrophoresis cassette using thermoforming methods.

10. As to claims 18 and 19, ROY does not appear to explicitly disclose the specifics of the thermoforming process used. However, WADE teaches cooling by passing a cooling fluid through cooling passages in the mold (column 7 lines 32-40). The cooling fluid is implicitly pre-cooled prior to being passed through the cooling passages so that it can cool the heated molding material.

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of ROY and WADE to arrive at the instant claims because of the need in the art to create an electrophoresis cassette using thermoforming methods.

11. As to claim 21, ROY does not appear to explicitly disclose the specifics of the thermoforming process used. However, WADE depicts at figures 2 and 3 keeping a small amount of sheet material left around the mold. WADE does not appear to explicitly disclose that a minimal amount of material is left around the mold for minimizing heat propagation from left material to molded material.

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to minimize the amount of material left around a mold in the method of modified WADE in order to minimize the amount of material wasted in a manufacturing process, thereby minimizing heat propagation from left material to molded material as required by the claim.

12. As to claim 22, modified WADE teaches creating holes in the cassette by punching with the mold, as outlined in the rejection of claim 12 above. This method of creating holes implicitly minimizes mechanical tensions created in the cassette as required by the claims.

13. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over ROY ET AL. (WO 01/16589) in view of WADE (US 3,703,255) as applied to claims 12-15, 18, 19, 21, and 22 above, and further in view of ROBACHE (US 6,282,870). As

to claims 16 and 17, modified ROY does not appear to explicitly disclose radiating heat from the mold. However, ROBACHE teaches a thermoforming process that involves heating a film between two thermally regulated plates which are maintained at different temperatures, as desired (column 3 lines 7-17). Heat is thus radiated from the plates as required by the claims. Each plate can constitute a divided zone of the molding apparatus corresponding, for example, to male and female mold sections.

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of ROBACHE and modified ROY to arrive at the instant claims because of the need in the art to keep a material heated while inside a mold during thermoforming operations at different temperatures, as desired, in order to create a unique final product.

14. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over ROY ET AL. (WO 01/16589) in view of WADE (US 3,703,255) as applied to claims 12-15, 18, 19, 21, and 22 above, and further in view of KARTMAN (US 3,932,096). As to claim 20, modified ROY does not appear to explicitly disclose cooling at a different speed in different cooling zones. However, KARTMAN teaches in a mold for thermoforming thermoplastic sheet material controlling the cooling rate of a mold by controlling the rate of coolant fluid flowing through upper and lower molding blocks of the mold (column 5 lines 11-51). KARTMAN further teaches the need for a temperature differential between molding surfaces (divided zones) 18 and 28 of the die cavity. At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the

art that a temperature differential can be created between these two mold sections by changing the rate of cooling fluid that is passed through the sections because of the need to provide control over cooling of the thermoformed sheet.

At the time of the invention, it would have been *prima facie* obvious to a person having ordinary skill in the art to combine the methods of KARTMAN and modified ROY to arrive at the instant claim because of the need in the art to provide control over cooling of the thermoformed sheet.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATUL KHARE whose telephone number is (571)270-7608. The examiner can normally be reached on Monday-Thursday 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ATUL KHARE/
Examiner, Art Unit 1791

/Christina Johnson/

Supervisory Patent Examiner, Art Unit 1791